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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/720,262	02/06/2001	Akira Igarashi	201034US0PCT	2400

22850 7590 11/14/2002

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EXAMINER

LANGEL, WAYNE A

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 11/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

720262

Applicant(s)

Igarashi et al

Examiner

Langel

Group Art Unit

1754

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-25 is/are pending in the application.
- ☐ Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-25 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☒ All ☐ Some* ☐ None of the:
 - ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
- ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 6,11,12
- ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

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The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9-24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ou et al. Ou et al. disclose the water gas shift reaction in which the catalyst may include a Group VIII and Group VIIB metal. (See column 5, line 36 - column 7, line 5.) It would be prima facie obvious to employ platinum and rhenium as such metals. Ou et al. further disclose at column 6, lines 46-65 that the catalyst support may be such inert porous supports as alumina, zirconia or titania.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9-12, 18 and 24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a)

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as obvious over Lywood et al. Lywood et al. disclose a process comprising the water-shift reaction in the presence of a catalyst comprising platinum on a refractory material such as aluminum oxide. (See the paragraph bridging columns 3 and 4.)

Claims 13, 16, 17, 19, 22 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lywood et al. It would be further obvious to employ the platinum in an amount of from 0.1% to 10% by weight based on the weight of the aluminum oxide in the catalyst of Lywood et al., since it would be within the skill of one of ordinary skill in the art to determine a suitable or optimum amount of the platinum to employ. Regarding claims 16 and 22, it would be further obvious to include calcium or magnesium in the catalyst of Lywood et al., since Lywood et al. teach at column 4, lines 61-68 that an alkaline earth metal should be present in the catalyst.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 2, 4, 6-8 and 25 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jensen et al. Jensen et al. disclose a catalyst comprising a refractory inorganic oxide upon which may be dispersed a catalyst which includes metallic platinum, metallic rhenium and cerium. (See column 5, lines 44-61.)

Claims 3 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jensen et al. It would be prima facie obvious to employ the platinum in an amount of between 0.1% and 10.0% by weight based on the weight of the metal oxide carrier in the catalyst of Jensen et al., since it would be within the skill of one of ordinary skill in the art to determine a suitable or optimum amount of the platinum to employ.

Claims 1-5 and 8 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Zhang. Zhang discloses a catalyst comprising from 0.1% to about 5% by weight of a support such as alumina, zirconia or titania, and wherein the catalyst may also contain rhenium. (See column 2, lines 43-67.)

Claims 8, 11, 12, 18 and 24 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 8, 18 and

24, it is indefinite as to what would constitute a "hot" water treatment, since it is not clear where the line of demarcation would be regarding the temperature of "warm water" and "hot water". In claims 11 and 12, it is indefinite as to whether a process or an apparatus is being claimed, since the claims recite a "fuel cell generation 'system'", whereas the main body of the claims recites only method steps.

Webb, Kluksdahl and Gui et al. are made of record for disclosing catalysts comprising platinum and rhenium on an aluminum oxide support.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne A. Langel whose telephone number is (703) 308-0248. The examiner can normally be reached on Monday through Friday from 8 A.M. to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on (703) 308-3837. The fax phone number for this Group is (703) 305-7718.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2351.

WAL:cdc

November 12, 2002

Wayne A. Langel
WAYNE A. LANGEL
PRIMARY EXAMINER